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Sonargaon University (SU)

সোনারগাঁও ইউনিভার্সিটি (এসইউ)

147/I, Green Road, Tejgaon, Dhaka-1205, Bangladesh.

Supply Chain Management Practices in Bangladesh: A Case Study of Modele de capital Industries Limited

Submitted by:

Md. Mir Kashem
ID: MSCM2102023010
Program: MSCM
Major: MSCM
Semester: Fall-2022
Sonargaon University (SU)

Submitted to:

Department of Business Administration
Sonargaon University (SU)
Submitted for the partial fulfillment of the degree of
MBA in SUPPLY CHAIN MANAGEMENT

Date of Submission: January 05, 2023

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Submitted by:

Md. Mir Kashem
ID: MSCM2102023010
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Submitted to:

Md. Abul Kalam
Professor
Department of Business Administration
Sonargaon University (SU)

Submitted for the partial fulfillment of the degree of
MBA in SUPPLY CHAIN MANAGEMENT

Date of Submission: January 05, 2023

Letter of Transmittal

January 05, 2023
Md. Abul kalam
Professor
Department of Business Administration
Sonargaon University

Subject: Submission of Thesis paper.

Dear Sir,
I am hereby submitting my Thesis paper entitled **"Supply Chain Management Practices in Bangladesh: A Case Study of Modele de capital Industries Limited."** which was assigned to me as a requirement for the completion of the MSCM Program. I have discovered this paper very interesting, beneficial, and insightful.

The entire report is based on my practical experience.I expect this paper to be informative as well as comprehensive. This thesis paper will help me a lot in my future career life.

Thank You very much for your guidance and cooperation during the course without which this thesis paper cannot be completed.

Moreover, if you have any further inquiries concerning any additional information, I would be very pleased to clarify that.

Yours Sincerely

Md. Mir Kashem
ID: MSCM2102023010
Program: MSCM
Semester: Fall-2022
Sonargaon University (SU)

Certificate of Supervisor

This is to certify that the Thesis report **"Supply Chain Management Practices in Bangladesh: A Case Study of Modele de capital Industries Limited."** has been prepared as a part of completion of the MSCM program from Department of Business Administration, Sonargaon University (SU), carried out by Md. Mir Kasehm, bearing ID: MSCM2102023010 under my supervision. The report or the information will not be used for any other purposes.

Md. Abul kalam
Professor
Department of Business Administration
Sonargaon University (SU)

Declaration of student

This is to notify you that, the Thesis paper on **"Supply Chain Management Practices in Bangladesh: A Case Study of Modele de capital Industries Limited."** has been prepared as a part of my dissertation formalities. It is an obligatory part of my MSCM program to submit a Thesis paper.

Moreover, I was inspired and instructed by my supervisor Md. Abul Kalam, Professor, Faculty of Business, Sonargaon University.

I am further declaring that I did not submit this report anywhere for awarding any degree or certificate.

Yours Sincerely

Md. Mir kashem
MSCM2102023010
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Semester: Fall-2022
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Letter of Authorization

Certified that this Thesis paper titled **"Supply Chain Management Practices in Bangladesh: A Case Study of Modele de capital Industries Limited."** is the work of Md. Mir Kashem, bearing ID: MSCM2102023010 under my supervision. Certified further that in the best of my knowledge the work reported here in dose not from part of any other Thesis Paper or dissertation on the basis of which degree or award was conferred on an earlier occasion on this or any other candidate.

Md. Abul kalam
Professor
Department of Business Administration
Sonargaon University (SU)

Acknowledgment

I would like to express my gratitude to all the people that were involved both directly and indirectly in the preparation of this report. I apologize to the people whose names I haven't mentioned, and their contribution is highly appreciated by me.

First, I would like to thank Almighty Allah who made us able to finish this thesis at the Perfect time.

I would like to thank our academic supervisor Md. Abul Kalam , Professor, Department of Business Administration, Sonargaon University (SU)– for guiding me and for giving me the opportunity to initiate this thesis. I am also grateful to those people without whom it was quite impossible to prepare the thesis. I am also grateful to some of the officials of Sonargaon University who help me to make this thesis by collecting data. They help me a lot for prepare this thesis and gave me much important information that is needed for preparing the thesis. Also more thanks to my friend Mr. Rajib Shahani, Project Manager, Akij Group for helping to make this report

Finally, my sincere gratitude goes to my family and friends for supporting me and sharing their thoughts and giving me moral support during the preparation of this thesis.

Executive Summary

The core objective of the Dissertation is to fulfill the requirement of the in MSCM program as prescribed by the Sonargaon University. I have been working as a supply chain professional of Modele de capital Industries Limited in the last 1 year. The main objective of the dissertation is to get the hands-on experience of the real-world organization. The Dissertation was completed with the objective of getting practical knowledge in the Supply Chain Management department of Modele de capital Industries Limited Green supply chain management is the consideration of environmental issues in supply chain management. I have to participate a lot of supply chain management work of the organization. I realized that I was successful to gather a lot of significant learning experiences which would be helpful in my future career. The Supply chain department of Modele de capital Industries Limited Offered me ample space and opportunities, not only to learn but also to exhibit my skills as a part of supply chain management department. I could use my theoretical knowledge of Green Supply Chain Management in real practice while participating in many discussions. I was actively involved in the department meetings where I shared my knowledge and views regarding Implementation of Green Supply Chain Management Practices of Modele de capital Industries Limited I also attempted to gather more information on basic job functions of other departments to have better understanding of the relation between them and the supply chain management department. It was commendable to see how wholeheartedly they welcomed, acknowledged and appreciated new ideas and knowledge. I have provided few recommendations based upon my understanding and knowledge. I successfully completed all the assigned duties and handed them over to the senior supervisor at the end of the Dissertation. I thoroughly enjoyed the challenges that came along every single day. I could also bring some minor improvisations during my professional life which were able to leave their marks. These lessons that I have learned will be a valuable one for my future endeavors.

List of Acronyms

SCM: Supply chain management
MRR: Material Receiving Report
PR: Purchase Requisition
PO: Purchase Order
COO: Chief Operating officer
SCLD: Supply chain logistics design
MILP: Mixed Integer logistics Programming
DHLx: Dalsey, Hillblom and Lynn Express
DPEx: Distributed Processing Executive Program worldwide
ABEx: Air Based Expressed
PRGs: Pearl River Glass Studio
MT: Metric Ton
COGS: Cost of Goods
TMS: Time Management system
L/C: Letter of credit
PI & CI: Proforma invoice & Commercial invoice
BL: Bill of leading
CR: Certificate of Origin
C & F: Clearing and Forwarding
Logistics: DHL, DPEX, ABPX, PRG, Bkrocks, Euroasia, Zhanjing cargo, KE-11, ARAMEX
Sipping way: Air, Sea, Road
Logistic price comparison: Excel sheet, pie chart, column etc.

Table of Contents

Chapter	Topics	Page No.
	Cover Page	i
	Letter of transmittal	iii
	Certificate of Supervisor	iv
	Students' declaration	v
	Letter of Authorization	vi
	Acknowledgment	vii
	Executive Summary	viii
	List of Acronyms	ix
	Table of Contents.	x
Chapter-1	**Introduction**	01-10
	1.1 Introduction	02
	1.2 Objective of the Study	03
	1.3 Methodology of the Study	04
	1.4 Limitation of the study	10
Chapter-2	**Literature Review**	11-13
Chapter-3	**Profile of the Organization Details of Modele de Capital Ind. Ltd**	14-16
	3.1 Mission	15
	3.2 Vision	15
	3.3 Values	16
Chapter-4	**Supply Chain Management Practices in Modele de capital Industries Limited**	18-26
	4.1 Structure of the Supply Chain Network of RMG Sector in Bangladesh	19
	4.2 Outcome from Expert Opinion	23
	4.3 Proposed Procedures for Faster Supply Chain	25
	4.4 Need for Material Requirement Planning (MRP)	25
Chapter-5	**Findings & Analysis**	**27-28**
	5.1 Findings	27
	5.2 Analysis	28
	5.3 Conclusion	29
	Reference	**30-32**

CHAPTER 01

INTRODUCTION

1.1 Introduction

The RMG sector captures a unique position in the economy of Bangladesh. The ready-made garment (RMG) industry has recently occupied the largest part of exports and foreign currency in Bangladesh and has been for more than a decade the second largest contributor to gross domestic product (GDP) (Asgari and Hoque, 2014). The tremendous success of readymade garment exports from Bangladesh over the last two decades has surpassed the most optimistic expectations. Today the apparel export sector is a multibillion-dollar manufacturing and export industry in the country. Given the dominance of the sector in the overall economy, any sort of vulnerability and threat to this sector should be a matter of concern. So rather than basking in glory we should concentrate on retaining sustainable growth and competitive edge.

Although Bangladesh is adapting all the latest technology but in compare to Vietnam, Cambodia, China, Pakistan, India the productivity of the RMG workforce is not up to the mark. In this regard, Bangladesh is gradually losing its market to India and other countries. For this reason, companies operating within this industry must then be able to apply business strategies that would help sustain the growth of the clothing sector. This means that by modifying some of the existing business procedures of the apparel companies, such as their supply chain management systems, continuous progress and development in the industry may be observed. By means of identifying the current supply chain management practices of some Bangladesh garment companies, business areas for improvement can be identified. The development of the supply chain management can also likely strengthen its connection with the international market. Therefore, in this paper we have tried to identify the structure, importance, and current practice of supply chain on RMG sector and major obstacles facing by the garments owners.

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The paper is divided into six parts. The current part discussed the background and the rationale for the study, and objectives of the study. The next section outlines outlined the research methodology followed by literature review of the RMG sector. Then, the fourth part of this paper describes Structure of the Supply Chain Network of RMG Sector in Bangladesh, key indicators of supply chain of RMG sector, and findings of the overall analysis of the problems based on literature review followed by experts' opinion based on semi-structured questionnaires. Based on overall findings, the subsequent chapter consists of recommendation on faster supply chain. Finally, the last part presents a summary of the paper. The section also admits some limitations of the study and guides the scope for further research.

1.2. Objective of the Study

This study endeavored to explore the construct of SCM practices and sustainability in the RMG sector in Bangladesh. The objective of the study are as follows:

To comprehend and articulate the contemporary practices of the supply chain in the RMG-business sector of Bangladesh.

To investigate the relationship between the sustainable supply chain and organizational performance.

To exhibit the relationship between a sustainable supply chain and social, economic and environmental sustainability.

To frame the challenges in adopting an optimum sustainable supply chain in the RMG sector of Bangladesh.

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1.3 Methodology of the Study

Despite the increasing interests in supply chain management (SCM) within the academy and industrial environment, there is still a lack of academic literature concerning topics such as methodologies to guide and support SCM evaluation. Therefore, most developed methodologies have been provided by consulting companies and present a restrict publication and use. This article presents a methodology for evaluating companies´ adherence degree to a conceptual model of SCM. The methodology is based on the Cooper, Lambert and Pugh original contribution and it involves eleven analysis referential axis established from key business process, horizontal structure, and initiatives & practices. It was pre-tested and supplemented with findings from interviews with academics and practitioners. Additionally, an illustration application was conducted in three relevant companies for refining and demonstrating its applicability. In general terms, the methodology can be considered as a diagnosis instrument that permits the companies to evaluate its status concerning the SCM. Keywords: Supply Chain Management, Supply Chain Management Models, Business Process, SCM initiatives and practices. INTRODUCTION Business management has entered the era of inter-network competition. This means that individual businesses no longer compete as solely autonomous entities, but rather as supply chains. In this emerging competitive environment, the ultimate success of the single business will depend on management's ability to integrate the company's network of business relationships. Supply chain management is a strategy through which such an integration can be achieved (SADEH et al., 2003) (CHRISTOPHER, 2001) (CHRISTOPHER & RYALS, 1999). Supply chain management (SCM) is a new and important area in the field of management research. Despite the increasing interests in this area and the proliferation of SCM within the academy and industrial environment, yet there is still a lack of academic literature concerning topics such as methodologies to guide and support SCM evaluation and implementation (AKKERMANS et al., 2004; CROXTON et al., 2000; LAMBERT et al., 1998). Specially, the

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absence of a methodology for evaluating supply chain management can be considered one the most critical lack in this area. Additionally, most methodologies related to SCM implementation have been provided by consulting companies and present a restrict publication and use. Therefore, before implementing SCM in a company, as any other concept, it is first necessary to evaluate its status concerning SCM related concepts and for that it is of utmost importance to establish measurement scales. Considering limitations in current literature and in SCM practical applications, the objective of this article is to present the development of a methodology for evaluating in what extent companies adhere to a conceptual model of SCM. A very important aspect of this development is that it should provide a framework for analysis, an efficient method for SCM field development and a clear explanations for practical applications, what can be considered of fundamental importance for researchers and practitioners (WACKER, 1998). In summary, it focuses on identifying and selecting a SCM conceptual model as a reference, identifying and defining the adequate research methodology and developing the methodology for evaluating companies' adherence degree to the conceptual model. The methodology was based on the conceptual model of Supply Chain Management proposed by Cooper, Lambert and Pagh (Cooper et al. 1997), and on SCM initiatives & practices. It involves eleven analysis referential axis established from key business processes, SCM horizontal structure and initiatives & practices. The key business processes involves Customer Relationship Management, Customer Service Management, Demand Management, Order Fulfillment, Manufacturing Flow Management, Supplier Relationship Management, Product Development and Commercialization and Returns Management. The SCM initiatives & practices selected for the methodology are: Supplier and Customer base Reduction and Consolidation, Postponed Manufacturing, In Plant Representatives, Early Supplier Involvement, Electronic Data Interchange, Vendor Managed Inventory, Efficient Consumer Response, Collaborative Planning, Forecasting and Replenishment. Finally, the SCM horizontal structure considers which tiers of suppliers and customers, beyond first tier, are monitored by the focal

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company. In terms of its structure, this article consists of five major sections besides this introduction. In section two is summarized the theoretical framework of SCM. In section three is discussed the selection of the reference SCM conceptual model used to develop the methodology. In section four is presented the research methodology. In section five is presented the development of the methodology for evaluating companies' adherence degree to a conceptual model of SCM. In section six is pointed out the main conclusions. SUPPLY CHAIN MANAGEMENT Nowadays most individual business no longer compete simply as autonomous organizations but rather as supply chains. Supply chain is referred as a set of companies involved in the upstream and downstream flows of products, services, finances, and information from a source to a customer (MENTZER et al. 2001). In brief, it can be understood that the supply chain constitutes a network of business relationships. Under this point of view, as stated in section 1, the success of a single business depends, primarily, on its ability to integrate the company's network of business relationships. Thus, what definitely matters is not the competitiveness of an individual company but that of the supply chain in which the company is inserted. Christopher (1992) pointed that currently the real competition is not company against company, but rather supply chain against supply chain. In this context, Supply Chain Management (SCM) has emerged as a form of achieving adequate integration of company's network of business relationships. Supply chain management extends the idea of integrating internal business functions, departments, and processes beyond the company's frontier to all the companies in the supply chain (Cooper et al. 1997). Hammer (2002), suggest that will succeed companies that are able to work in close association with its partners for the development of projects and for the management of processes that involves all the supply chain. There are many definitions for supply chain management. Taking into account all the above mentioned aspects and specific objectives and purposes, The Global Supply Chain Forum definition was adopted for the development of this article: "Supply Chain Management is the integration of key business processes from end user through original suppliers that provides

products, services and information that add value for customers and other stakeholders" (LAMBERT et al. 1998 a; CROXTON et al. 2001). THE REFERENCE SCM CONCEPTUAL MODEL From a review of relevant literature, six SCM conceptual models that recognize the need of implementing business processes were identified (Cooper, Lambert, and Pagh 1997; Supply-Chain Council - SCOR 1996; Bowersox, Closs, and Stank 1999/Melnyk, Stank, and Closs 2000; Srivastava, Shervani, and Fahey 1999; Vollman, Cordon, and Heikkilä 2000; Mentzer 2001). According to Lambert et al. (2005) and Pires (2004), only two of those conceptual models provide enough information to support research development in this important area: Cooper, Lambert, and Pagh 1997, and the Supply Chain Council - SCOR models. In this context, Cooper, Lambert and Pagh SCM conceptual model (Cooper et al. 1997) was selected to support the evaluating methodology development proposed in this article, based on many reasons. One is its high frequency of inclusion in existing research, much superior than the SCOR model. Another is the fact that it is defined broadly and abstractly enough to facilitate its potential study (LUCAS, 1974 in LEWIS, 1998). Additionally it is of ample comprehensiveness, since encompasses eight main business processes involving at least six functional areas of the companies. It has a more academic and didactic base since it presents clearly a conceptual structure and provides detailed information about the business processes what amplify the possibilities to theory development. RESEARCH METHODOLOGY The research methodology adopted for this paper combines three different methodologies. Firstly, to define the basic model, it involves the use of Discovery Oriented Approach (Kohli & Jaworski 1990; Menon et al. 1999) to create a preliminary methodology and to complement the literature investigation with discussions in small groups of professionals from academy and industry, directly involved with the area. Secondly, it is complemented with an additional step that involves pre-testing the methodology by submitting it to a group of potential respondents and integrating the obtained knowledge to the preliminary methodology (FORZA, 2002). Finally, it is also supported by Lewis (1998) iterative triangulation. It employs systematic

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iterations between literature review, case evidence and intuition based on the researcher experience and judgement. Therefore, according to the research methodology adopted for this study, three stages were necessary for the development of the evaluating methodology; - Stage 1: development of the preliminary methodology based on an extensive review of diverse, relevant literature (Preliminary Methodology); - Stage 2: development of the adjusted methodology from academy and industry perspectives (Adjusted Methodology), and - Stage 3: development of the methodology for evaluating companies' adherence degree to a conceptual model of SCM by integrating knowledge obtained from the illustration application (Evaluating Methodology). The methodology is better detailed during the development of each stage, in next section. DEVELOPMENT OF THE EVALUATING METHODOLOGY In this section are detailed all the necessary stages for constructing the methodology for evaluating companies' adherence degree to a conceptual model of SCM. Development of the Preliminary Methodology Based on The Global Supply Chain Forum SCM definition, on conceptual model of Supply Chain Management proposed by Cooper, Lambert and Pagh and on some basic SCM initiatives & practices, the methodology establishes eleven analysis referential axis. The first nine analysis referential axis are related to key business processes and it should identify weather the company manages and integrates them within first tier key customers and first tier key suppliers. Key business processes proposed by Cooper et al. (1997); Lambert et al. (1998 a); Croxton, et al. (2001), are: - Customer Relationship Management; - Customer Service Management; - Demand Management; - Order Fulfillment; - Manufacturing Flow Management; - Supplier Relationship Management; - Product Development and Commercialization, and - Returns Management; In order to eliminate a possible source of confusion Returns Management process was separated in Returns Management from customers and Returns Management to suppliers. The tenth analysis referential axis is related to horizontal supply chain structure and should identify weather the company monitors the management of key business processes beyond first tier of key suppliers and first tier

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of key customers. The eleventh analysis referential axis is related to SCM initiatives & practices and should identify weather the company uses or intend to use these initiatives & practices to support business processes management. A defined number of requirements were associated to each analysis referential axis. From the analysis of each requirement in each one of the referential axis it is possible to establish the company's adherence degree to the conceptual model of SCM. It is important to note that the core of the methodology is related to the integration of key business processes. Requirements associated to the analysis referential axis related to key business processes Key business processes definitions, objectives and strategic and operational sub-processes stated in literature (Croxton et al. 2001, Lambert 2004, Bowersox & Closs 2001, Christopher 2001 and Lambert et al.1998b) were detailed, analyzed, and translated into evaluating parameters or requirements using the language of industrial environment. One hundred requirements were identified for key business processes. These requirements were submitted to a selected group constituted of a professional from industry, an academic and three professors/consultancy professionals. After a lot of discussions and many decisions meetings, were defined which requirements should be considered in the methodology. The final requirements are presented on Table 1 to 11.

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1.4 Limitation of the Study

Going green helps in protecting the natural system of the earth but for business, it means bearing extra prices

1. **Expensive:** purchasing wind power electricity or switching to solar power can be costly for your corporation and may incur a premium price.
2. **Data risk:** going completely paperless will directly risk your data Record Keeping. The system crash, theft of computers, viruses, and hacking of sensitive information can prove disastrous.
3. **Increased product prices:** using green materials in your facility or production process can lead to a higher cost that is passed to the customers or have to be borne by the company's expense.
4. **Customer backlash:** if consumers get aware of a company getting involved in greenwashing then it may harm its credibility. Greenwashing is the process by which the company can make a false claim of their product being environmentally friendly.

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Chapter: 02

Literature Review

In the apparel sector, all the Bangladeshi garment companies are subcontractor and producing at the low end of the market. Lam and Postle (2006) have reviewed the concept of supply chain management in textile and apparel supply chain management in Bangladesh. They discussed the strengths and problems faced by the Bangladesh textile apparel supply chains. They argued that Bangladesh apparel industry is generally not aware of the concept of supply chain management and industrial benchmark for both manufacturing and retailing industries in Bangladesh and the supply chain performance is below the world average. The evolution of supply chain management occurred during the 1990s; at this time, collaboration between manufacturers and suppliers had been established in order to enhance traditional approaches in supply management functions. At the same time, retailers as well as wholesalers had integrated their logistics operations as well so as to achieve greater competitive advantages.

Nuruzzaman (2007) took an attempt to develop more effective supply chain for Bangladeshi RMG to enjoy competitive advantage in the global apparel business through analyzing the current supply chain and investigating the relationship among the players in the supply chain. Islam (2012) analyzed that apparel supply chain matters such as new orders, raw materials supply, production processes and logistics related to finished goods delivery by using efficient supply chain process and also mentioned that Bangladesh garment industry improvement is desired in reducing the supply time required to produce and fulfill the orders placed by foreign companies. His findings are using modern fast and effective machinery can reduce time taken to deliver the order. Tanvir and Muqaddim (2013) analyzed the approach is to compile the supply chain management or the Bangladesh garment industry seriously. In the RMG sector the supply chain management is more complex owing to characteristics of global supply chain (SC). In the global supply chain, crossing borders nearby supply with a multiplicity of general obstructions to intercontinental business: tariffs, nontariff

obstructions, switch over rates and differences in product necessities, consumer savors and business observes.

The business of the fashion industry is so impulsive and competitive that the driver for successful entrepreneurship is capitalizing on opportunities and scopes by integrated efforts among supply chain partners (Sen, 2008); apparel manufacturers and traders are engaging themselves to utilize integrated supply chain management as a source for improving their business performance (Gunasekaran et al., 2008).

Different stages of supply chain have conflicting goals and objectives. Asgari and Hoque (2013) examined the opportunity that lies in an integrated supply chain to provide a competitive advantage to the Bangladesh RMG sector. Since the end consumers of the apparel fashion market are becoming increasingly time-sensitive, a decrease in lead time, besides quality and cost criteria, is needed to win more orders from buyers

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Chapter 03

Profile of the Organization

Devotion for the Excellence" By uttering this phrase one of the finest light knitwear manufacturing company set out their journey in Bangladesh name Modele de capital Ind. Ltd. From 1st October 2005. We are not newcomer in this sector. We have gathered a pile of experience from the grassroots level in readymade garments sector. We had started our step in RMG industry by establishing knitting, dyeing, garments manufacture & now a full composite entity. We have to mention the project for which we are here which is our mother project name Goumati knitwear ltd. It was established in the year of 2000. From then we are getting highly acclamation from the reputed buyers for our in time delivery and quality production. After founding Modele de capital Ind. Ltd is recognized as modele group with its 13 other concerns. We are very much thankful to almighty allah that we got the opportunity to run the group sharing the hand with the world reputed buyers.

Mr. Nowsher Alam is the chairman of Modele group. Since 25 years he is contributing in this sector . Mr.Masuduzzaman is the managing director of Modele group and he is also an experience person is this sector for 22 years. He is the vice president of BKMEA and member of France Bangladesh chamber of commerce industries (CCI). He is also the permanent member of the country famous very old sporting club, Mohamedan sporting club.

3.1 Vision

"Garment Makers to the best Brands across the Globe. On of the best Top 3 in Bangladesh.

3.2 Mission

- Enhance people competencies, enable and empower them to embrace world class manufacturing practices & processes.
- Create opportunities for the Professional Growth of Our People.

- Exceed the quality standards of best brands worldwide while committing to sustainability requirements.
- Create a culture of innovation in product development and all processes.
- Consolidate relationship with our esteemed suppliers, make them partner in growth.
- Harness ICT to its full potential and apply tools & processes like ERP, EPM, BI and exploring Industry 4.0, to significantly improve efficiently.

3.3 Values

- **Passionate:** Our passion reflects in our actions to keep upgrading quality of our products and services, setting challenging goals and chasing them, and continuous learning.

- **Caring:** Our people are biggest asset. Being sensitive and caring to their needs and expectations is the basis on which our people policies are decided. We go extra miles to ensure that an environment of understanding, support, community, and mutual respect is created and sustained.

- **Innovative:** We keep critically examining our processes and approaches, in product and service offerings, internal processes, and people aspects. We recognize that innovation is the way to address future, create a differentiation, and deliver stake holder value.

- **Courageous:** Courage to us is dreaming big and taking bold decision. This has been the cornerstone of our journey so far. This defines how we envision our future, and determines how we will reach there, howsoever difficult and challenging it may seem.

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- **Accountable:** Once we take a responsibility we own it completely. We recognize that when a promise is made, there are no excuses. This is accounting for us.

Corporate Office & Factory: Talla Road, Khapur, Fatullah, Narayanganj, Bangladesh.

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Chapter-4

Findings and Analysis of the Study

4.1. Structure of the Supply Chain Network of RMG Sector in Bangladesh

Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption.

Some of the key characteristics of the fashion industry are that the life cycle of any new styles of apparels is continuously decreasing, end demand for any garments is highly fluctuating and changing over time, various kinds of designs and styles are evolving everyday worldwide, and the total chain from yarn and cotton supplies to final garments through a lot of suppliers from many countries is very dynamic and difficult to manage (Sen, 2008). So, apparel manufacturing companies of any country should manage the supply chain in a way that meets the total needs of the end consumers (Gunasekaran et al., 2008). This has caused the fashion industry to become increasingly complex and dynamic, and this sector has attracted many new market entrants and thus has triggered intense competitions (Gunasekaran et al., 2008).

The current RMG manufacturers of Bangladesh are importing most of the required woven fabrics from China, India, Pakistan and Indonesia whereas they are producing the knit fabrics by themselves. In this paper, we will mainly focus on knit sector. In the knit sector, the total activity can be divided into different parts: knitting, dyeing, sewing, cutting, and finishing. In Bangladesh, we need to import 95% dyes chemical from other countries and sometimes accessories. There was a time when Bangladesh was dependent to other countries for importing fabric and yarn. But now this backward linkage industry has become one of the stronger sides of RMG industry. They are producing yarn; they have their knitting section to produce fabric as per buyer's demand. Supply chain integration makes it possible to manufacture fabrics before taking orders from buyers but requires more collaboration among buyers, fabric suppliers and garment manufacturers in Bangladesh.

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In the supply chain, the parties playing a major role are retailers, contractors, sub-contractors, merchandisers, buyers and suppliers and everyone plays an important role in the network. In readymade garments sector, most of the companies and industries in Bangladesh are at the lower end of the supply chain as they are mostly sub-contractors and produce end product of the supply chain.

Islam and Liang (2013) described two generalized network of raw material supply and collection processes (Figure 1 and 2). They described the role of the country's most industries as tailor shop where they receive order from the foreign buyers and collect raw materials from international and some cases from local market as per the demand of the buyers. Hence, the buyers and garments manufacturer relation remains simple.

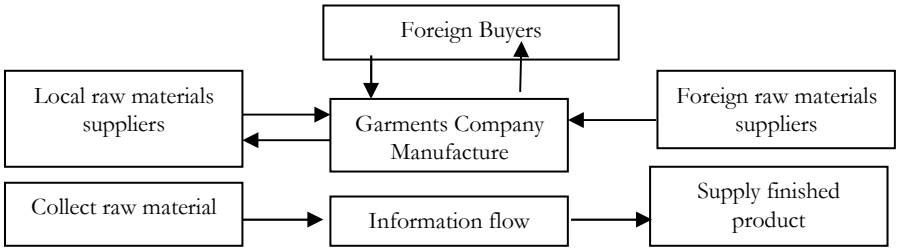


Figure 1: Business Structure and Raw Material Supply Network

Source: Nuruzzaman (2007) in Islam and Liang (2013)

On the other hand, relation between raw materials suppliers and the manufacturer is quite complex as Islam and Liang (2013) described. Accessories like buttons, level tags, collars, etc. mostly come from local markets and major fabric come from international suppliers. The figure 2 describes that a garment company gets order from a buyer which actually finds order from its foreign clients. Sometime foreign buyers directly contact with the garments company to save time and money. Garments Company collects its raw materials from both local and foreign sources. In some cases, the foreign buyer itself manage raw materials especially fabrics, cotton, etc. for their products.

In the RMG sector, the Manufacturer - Raw materials Supplier relationship is different. In this industry, the main raw materials are fabrics (Cloths) and few accessories are like button, collar etc. About

80% of the suppliers of accessories are local and accessories suppliers are not responsible to increase lead time. The process is visualized in the following figure.

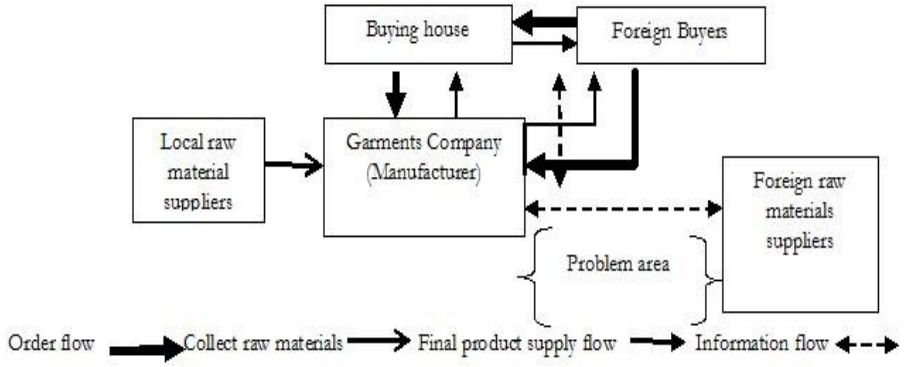


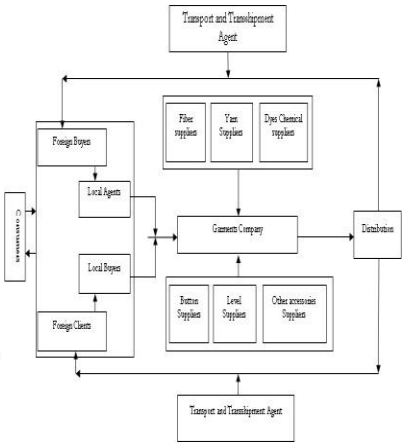
Figure 2: Business Structure and Raw Materials Collection Process

Source: Nuruzzaman (2007) in Islam and Liang (2013)

A garments company needs to maintain a close relation with foreign buyers, local buyers, raw material suppliers and transport and transshipment agencies. A generalized supply chain has been developed (figure 3) to depict this interrelationship of different parties involved in the supply chain.

Figure 3: A General Supply Chain Network of a Garments Company

Source: Nuruzzaman (2007) in Islam and Liang (2013)



Backward Linkage for Raw Materials

The finished garments depend on linkage of three steps: i) conversion of fiber/cotton to yarn, ii) yarn to grey fabric and iii) grey fabric to

dyed, printed, designed and finished product (Habib, 2011). In this linkage, Bangladesh is quite capable of conversion of cotton to yarn, knitting, finishing in knitwear sector but largely depends on foreign sources for dyes chemical to turn the grey fabric to dyed or printed fabric (Habib, 2011). This dependency on foreign sources leads long lead time. However, in accessories sectors Bangladesh achieved a good growth as 80% of demand is met locally (Habib, 2011), though the quality of the local accessories is still an issue. And this backward linkage is now considered as strength for RMG sector as our textile and spinning mills are growing, presently they meet about 90% of local knit yarn demand (BGMEA and BKMEA).

Lead Time

Given the geographic position of Bangladesh and the prevailing shipping routes, it takes considerable time for shipments from these countries to reach the ports in Bangladesh. The time requirement is further lengthened by the fact that goods have to be brought back from China and elsewhere through transshipment at Singapore or Malaysia as goods cannot be shipped directly to Bangladesh from these countries. On the other hand, competitors like China, India and Cambodia to some extent enjoy self-sufficiency in this aspect.

Timely sourcing of raw materials from foreign sources is the main bottle neck in the supply chain of the garments industries of Bangladesh (Haque et al., 2011; Islam and Liang, 2013; McKinsey and company, 2011). The total lead time, also called manufacturer lead time, includes the time required at following stages:

- Order Processing, and Sourcing and Ordering of Raw Materials
- Manufacturing of Raw Materials
- Shipment of raw materials to Sea Port of Bangladesh
- Unloading and custom clearance at sea port of Bangladesh
- Inland Transportation (Port to RMG manufacturing point)
- Time for Sample Approval and Production of Finished Product
- Shipment of the Finished Product

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The best way to shorten the lead time is to develop domestic backward linkage at country level and adoption of efficient Material Requirement Planning in industry (Habib, 2011; Sagbansua and Alabay, 2010). In this study lead-time is defined as the time it takes from getting order from a customer and received the delivered product by that customer (Azad, 2004).

4.2. Outcome from Expert Opinion

From the above literature review, we have recognized the following problems and cross-checked with few garments owners from Narayangonj BSCIC Industrial Estate through semi-structured questionnaire. And from the interviews, we have come to the conclusion that most of these problems are curable under strict policy and subsidiary from Government to some extent.

Product Development and Sampling

Product development and sampling stage fall under pre-production processes. Other pre-production processes include sample approvals, finalizing vendors and cost negotiation with raw material suppliers. Most of the factories do not consider including development stage schedule under plan. It results no control on pre-production processes. It goes long and long. When sample approval gets detailed, consequentially ordering of trims and fabric get delayed. Out of total lead time most part is consumed by preproduction functions. As a result, planned cut date (PCD) gets postponed. 30% of the respondent considered this matter as problem.

Production Urgency

Pressure and urgency increases when factory starts production processes (Cutting, preparatory and sewing), as order has already eaten up bigger part of total time scheduled for everything on fast pace. They even push their whole team on quantity production. 10% of the respondents face this problem on a regular basis on a regular interval. In this stage, they forget to care of quality of the product. Once they start ignoring standard procedures they get stuck on stitching quality or related problem rises. Repair and reinspection become a main process. These process increases production time.

Delay from Sub-Contracting Jobs

For high fashion product, few value-added processes such as panel printing, embroidery, bead work or dyeing are needed. For these value-added processes factory normally send fabric or half stitch garment to subcontractors for job-works as not all the garments owners have latest technology embroidery and knitting machines. Sub-contractors also come with their big commitments on delivery and quality. But when factory receives goods, they had to count some more days on their delays. As a result, shipment gets delayed and the owners need to pay extra on air shipment or sometimes if the buyers cancel the order due to delay, they need to sell the whole lot at the local market at lower price. We had 50% respondents who do not have latest technology for value added process and as a result according to these 50%, this dependency is a reason for longer lead time. After discussing with them, our conclusion is this happens due to absence of planning at subcontractor factory.

Labor Productivity

The productive efficiency of labor is more important determinant for gaining comparative advantage than the physical abundance of labor. In Bangladesh, the garment workers are mostly women with little education and training. The employment of an uneven number of unskilled labors by the garment factories results in low productivity and comparatively more expensive apparels. Bangladesh labor productivity is known to be lower when compared with that of Sri Lanka, South Korea and Hong Kong. It's true that in Bangladesh we have cheap labor compare to other countries but at the same time it is also true that they are not really effective. The respondents were very upset while they were sharing that they have installed all the latest machineries which are used by the competitor countries but still they are lagging behind in terms of workers' productivity and this is only problem which is faced by all of them. All of them (100%) agreed that productivity is one of the major problems that they are facing now.

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Others

Although we could not find any other problems but from the interview we identified few more problems faced by the RMG sector. In present scenario, on an average a business man needs 4-5 weeks time to export and incurs USD 700-800 per 20*20 containers due to the bad condition of road, transportation etc. according to most of them infrastructure is one of the major problem for delaying. Another major problem which came out through interview is utility expense and facility. They do not get electricity, gas. They have setup their own ETP plant which incurred a huge amount of investment as they did not get any subsidy from the government whereas in competitor countries, they get the facility and subsidiary from the government. They need to run their business with diesel generator as they do not get 24/7 gas and electricity facility. Therefore, due to severe utility problems, they need to face a big amount of extra expense.

4.3. Proposed Procedures for Faster Supply Chain

Formation of Central Bonded Warehouse

Although we could not find any other problems but from the interview we identified few more problems faced by the RMG sector. In present scenario, on an average a business man needs 4-5 weeks' time to export and incurs USD 700-800 per 20*20 containers due to the bad condition of road, transportation etc. according to most of them infrastructure is one of the major problem for delaying. Another major problem which came out through interview is utility expense and facility. They do not get electricity, gas. They have setup their own ETP plant which incurred a huge amount of investment as they did not get any subsidy from the government whereas in competitor countries, they get the facility and subsidiary from the government. They need to run their business with diesel generator as they do not get 24/7 gas and electricity facility. Therefore, due to severe utility problems, they need to face a big amount of extra expense.

4.4. Need for Material Requirement Planning (MRP)

Following the earlier discussions, it is clear that major problem in readymade garments sector of Bangladesh is its long lead time of

production and delivery. MRP is a computer-based system designed to organize the timing and ordering of the dependent demand products. In this context, the bottle neck is the backward linkage of material collection. Heizer and Render (2004) evaluated different future scenarios and found that the establishment of local industries only or establishment of stock of raw materials would not shorten the lead time. Rather it depends on the inventory management and linkage with common bonded warehouse (Heizer and Render, 2004). In MRP, all raw materials and accessories are named as dependent demand which is discontinuous in nature (Sagbansua and Alabay, 2010). But for the discontinuous demand they need a better management that helps them to optimize the timing and ordering of those discontinuous demands. Computer based MRP helps to optimize timing and ordering of discontinuous demands of raw materials and thereby the lead time could be reduced (Sagbansua and Alabay, 2010). By implementing MRP, if Bangladesh can produce the best quality raw materials that will be best option as that will reduce cost and lead time.

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CHAPTER-5

FINDING & ANALYSIS

5.1 Finding

1. Communication with the supplier: A bottom point of Supply chain management is smooth communication with suppliers at always times.
2. Network channel: A goods channel with suppliers makes benefits others in the future of others' products in the market.

Supply chain network at Modele de capital Industries: From the beginning to finish the product how to supply manufacturer to the ultimate customer at the below point:

1. Supplier: A person who responded to supply raw materials, machinery, or others. Manufacturer: Getting materials and then starting to make the final product.
2. Warehouse: A stock house of the factory that to the measurement of the present stock of materials or final goods.
3. Distribution: Circle of the channel to distribute all things at ultimate purpose.
4. Retailer: A nominee person who sells the final product to the consumer for making a profit.
5. Customer: Ultimate customer who buys our company product for consumption.
6. Cost measurement: If we make a final product, then include all costs such as materials, Shipping, Process, etc.

5.2 Analysis

Effect of logistics costs on profit at Modele de capital Industries: Every cost is affect profit some are the lowest, and some are more. Here logistics is a turning factor of cost below:

1. Air freight cost: An emergency or smooth of liquid materials then use airway otherwise it's a high-cost effect on making the final product.
2. Sea freight cost: As import section supply chain management must decide to ship at sea freight in any country because the sea is always a measurable lowest cost for carried.
3. Road/Land freight cost: when we import any materials from a neighboring country then we try to ship by road because it’s given the lowest cost.
4. Import follow-up system: A supply chain manager must follow up when materials or machines are shipped if a delay in releasing the goods, then give the demurrage to customs.
5. Sourcing new suppliers at Modele de capital Industries: The supply chain manager must source new suppliers locally or internationally for reducing the materials

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purchase cost.

6. Delivery chain network: A chain of networks to deliver the product from the manufacturer to the customer.
7. Price negotiation: when we purchase materials or machines from suppliers then must smoothly negotiate for a price reduction.

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5.3 Conclusion

To remain competitive, Bangladesh needs to remove all the structural impediments in the transportation facilities, power supply, and management of seaport, utility services, and overall infrastructure and in the law-and-order situation. The government and the RMG sector would have to jointly work together to maintain competitiveness in the global RMG market. Given the remarkable entrepreneurial initiatives and the dedication of its workforce, Bangladesh can look forward to advancing its share of the global RMG market.

In a nutshell, we can conclude that one of the biggest impediments of further growth of RMG sector is the lack of proper infrastructure. So, the concerned associations should take proper steps for infrastructure development to ensure adequate electricity, gas and port facility to RMG manufacturers. At the same time the RMG enterprises need to put emphasis on increasing efficiency and productivity of the RMG factories. More backward linkage facility should be established in the country to reduce dependency on other countries for dyes chemical by investing local backward industry in both micro and macro level. Bangladesh also need to increase the level of value addition by better combining the players in the chain of value addition and establishing industry hubs where a whole production industry including small backward linkage units will carry on the process in harmonized succession.

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